

REMARKS

Claims 1-29 are pending in this application and have been rejected by the Office Action.

Claim Rejections - 35 U.S.C. § 102

Claims 1-2, 4-5, 9, 19-20, 22-23 and 25, drawn to the apparatus and method claims 16-18 and 27-29, were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No, 4,446,465 to Donovan (hereinafter "Donovan").

Donovan teaches parasitic elements which are connected in a framed grid. This grid is electrically connected to the antenna structure described in Donovan. In contrast, claims 1-2, 4-5, 9, 19-20, 22-23, and 25 have been amended to require "a plurality of independent metallic parasitic elements unconnected to said dipoles. . . ." Method claims 16-18 and 27-29 have been amended to require the step of "providing a plurality of independent metallic parasitic elements unconnected to said dipoles placed in a selected of said plurality of supports." In other words, applicants' parasitic elements float above the antenna structure and are unconnected to this structure. This is important to the applicants' invention because they provide the isolation achieved by applicants' invention.

Donovan teaches an antenna system which is circularly polarized. As a consequence of the circular polarization, Donovan can receive only a single signal. In contrast, amended claims 1-2, 4-5, 9, 19-20, 22-23, and 25 require "[a]n antenna for simultaneously receiving separate electromagnetic signals." Method claims 16-18 and 27-29 have been amended to require "simultaneously receiving separate electromagnetic

signals.” In other words, the crossed dipoles required in the above claims are excited by two signals, not one as mentioned by Donovan. Applicants’ claims achieve a vastly different result from the antenna described in the Donovan reference.

Donovan teaches supports that are metallic in nature. In addition, the supports of Donovan support the dipole drooping arms above the groundplane and serve as baluns. In contrast, claims 1-2, 4-5, 9, 19-20, 22-23, and 25 and method claims 16-18 and 27-29 require “nonconducting supports.” This is an important aspect of applicants’ invention because these non-conducting support have a minimal electrical effect on the balance of applicants’ antenna system. If the applicants were to use metallic supports as required by Donovan, an important result achieved by applicants’ invention (isolation) would be impossible.

Claim Rejections - 35 U.S.C. § 103

Claims 3, 6, 7-8, 10-15, 21, 24 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Donovan in view of U.S. Patent No. 5,629,713 to Mailandt et al. (hereinafter “Mailandt”).

As discussed above, applicants’ claimed invention is greatly different from that illustrated in Donovan. For instance, applicants claim a non-conducting support in contrast to the conducting support described by Donovan. In addition, the applicants’ antenna can receiver two separate electromagnetic signals in contrast to the single signal that can be received by the Donovan antenna. Also, the applicants’ parasitic elements are physically separate and electrically unconnected from the rest of the antenna in contrast

to Donovan which teaches an iron grid. Thus, applicants' claims are allowable for these reasons alone.

In addition, the applicants also believe it would be improper to combine the Donovan and Mailandt references because an important purpose of Donovan would be destroyed by such a combination, namely receiving signals from an external source. In Mailandt, the dipoles are not excited by an external source but by the driven dipole element located at the center of a pair of collinear parasitic dipoles. These parasitic dipoles are terminated with a resistive load.

Conclusion

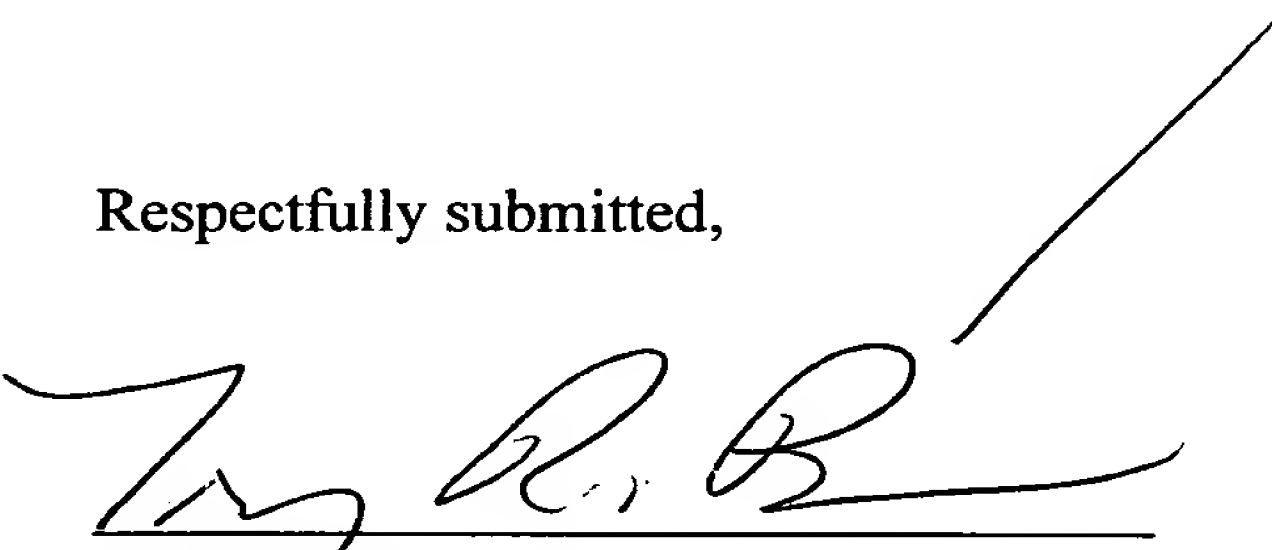
In view of the above amendments and remarks, the applicants believe the claims are in condition for allowance.

Applicants believe no fee is required for the submission and consideration of this information at this time. If the fee of 37 C.F.R. § 1.17(p) is required at this time, the Commissioner is authorized to charge any deficiency or to credit any over-payment to Arnold, White & Durkee Deposit Account No. 01-2508/ANDU:434.

If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is respectfully requested to contact applicants' undersigned attorney at the number indicated.

Respectfully submitted,

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